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## **APPENDIX L**

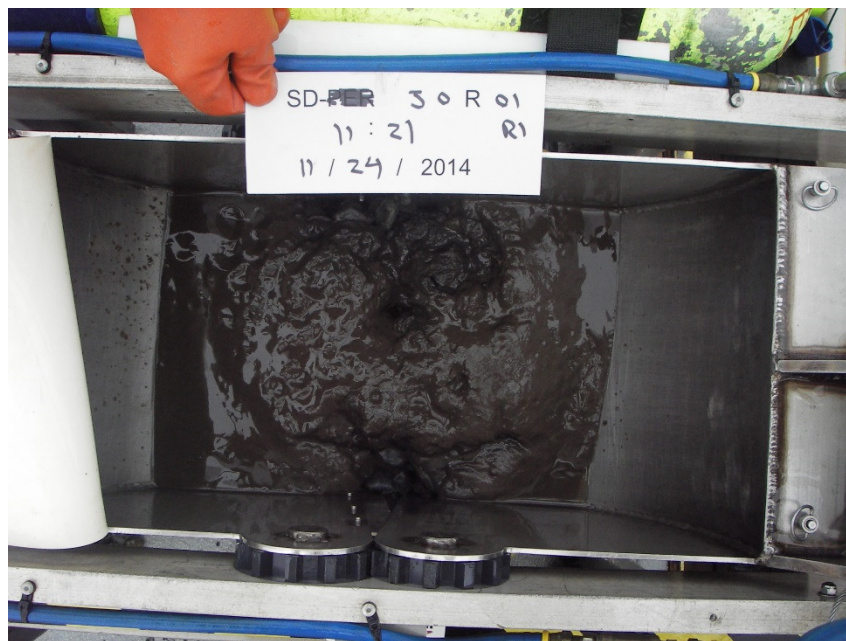
Qualitative Sample Characteristics, Photographs,  
and Chain-of-Custody Forms  
for Jorgensen Backfill Sampling

## **PRE-DSOA DREDGING**

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## Page of

**AMEC, 3500 188th St. SW, Suite 601, Lynnwood, WA 98037, (425) 921-4000**



Station SD-JOR01 R1



QUALITATIVE SAMPLE CHARACTERISTICS										Page ____ of ____	
Coordinate Datum				Date (mm/dd/yy)		Project Location		Sample Identification Number			
				11-24-14		Boeing PL2		SD- <del>PER</del> JOR 91			
Coordinates						Water Depth				Time	
North			East			Depth	Unit	Rep	Gear		
195 634			127 57 82			21.3	f t	2	0.2 Grab	1146	
Penetration			Sulfide	VOA	Weather	Surficial Wood Estimate:					
Depth	Unit	Initials				Contact Points					
10	c m	634			cloudy	_____ X 5 = _____ %					
Surficial sediment characteristics:											
Biological:		_____ %		Debris:		_____ %		Oil Sheen:		None Trace (<5%) _____ %	
Moisture		Wet		Moist		Damp		Dry			
Color		Light		Medium		Dark		Olive Gray Brown Black		Other _____	
Major Constituent		Fine		Medium		Coarse		Gravel Sand Silt Clay			
Minor Constituent with trace		Fine		Medium		Coarse		Gravel Sand Silt Clay			
Subsurface sediment characteristics:											
Density / Consistency											
Sand / Gravel -		Very Loose		Loose		Medium Dense		Dense		Very Dense	
Silt / Clay -		Very Soft		Soft		Medium Stiff		Stiff		Very Stiff Hard	
Moisture		Very Wet		Wet		Moist		Damp		Dry	
Color		Light		Medium		Dark		Olive Gray Brown Black		Other _____	
Major Constituent		Fine		Medium		Coarse		Gravel Sand Silt Clay			
Minor Constituent with trace		Fine		Medium		Coarse		Gravel Sand Silt Clay			
Biological:		_____ %		Debris:		_____ %		Oil Sheen:		None Trace (<5%) _____ %	
Comments:											
1" thick silt layer over gravel with few fines.											



Station SD-JOR01 R2

QUALITATIVE SAMPLE CHARACTERISTICS										Page ____ of ____																		
Coordinate Datum				Date (mm/dd/yy)		Project Location		Sample Identification Number																				
				11-24-14		Boeing PL2		SD- <del>PER</del> JOR 01																				
Coordinates						Water Depth				Time																		
North			East			Depth	Unit	Rep	Gear																			
195 632			127 57 85			21.2	f t	3	0.2 Grab	1157																		
<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td>Penetration</td> <td></td> <td></td> <td>Sulfide</td> <td>VOA</td> <td>Weather</td> <td>Fines (%)</td> </tr> <tr> <td>Depth</td> <td>Unit</td> <td>Initials</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>5</td> <td>c m</td> <td>GSM</td> <td></td> <td></td> <td>cloudy</td> <td></td> </tr> </table>				Penetration			Sulfide	VOA	Weather	Fines (%)	Depth	Unit	Initials					5	c m	GSM			cloudy		<b>Surficial Wood Estimate:</b> <b>Contact Points</b> _____ X 5 = _____ %			
Penetration			Sulfide	VOA	Weather	Fines (%)																						
Depth	Unit	Initials																										
5	c m	GSM			cloudy																							
<b>Surficial sediment characteristics:</b> Biological: _____ %    Debris: _____ %    Oil Sheen:    None    Trace (<5%) _____ % Moisture <u>Very Wet</u> Wet    Moist    Damp    Dry Color Light <u>Medium</u> Dark    Olive    Gray <u>Brown</u> Black    Other _____ Major Constituent <u>Fine</u> Medium    Coarse    Gravel    Sand <u>Silt</u> Clay _____ Minor Constituent with trace Fine    Medium    Coarse    Gravel    Sand    Silt    Clay _____																												
<b>Subsurface sediment characteristics:</b> Density / Consistency <u>Sand / Gravel</u> - <u>Very Loose</u> Loose    Medium Dense    Dense    Very Dense <u>Silt / Clay</u> -    Very Soft    Soft    Medium Stiff    Stiff    Very Stiff    Hard Moisture Very Wet <u>Wet</u> Moist    Damp    Dry Color Light <u>Medium</u> Dark    Olive    Gray <u>Brown</u> Black    Other _____ Major Constituent Fine    Medium <u>Coarse</u> <u>Gravel</u> Sand    Silt    Clay _____ Minor Constituent with trace Fine    Medium    Coarse    Gravel    Sand    Silt    Clay _____ Biological: _____ %    Debris: _____ %    Oil Sheen:    None    Trace (<5%) _____ %																												
<b>Comments:</b> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;">             No sand Gravel and silt           </div> <div style="color: red; font-weight: bold; margin-top: 10px;">             No photo taken           </div>																												

QUALITATIVE SAMPLE CHARACTERISTICS										Page ____ of ____	
Coordinate Datum				Date (mm/dd/yy)		Project Location		Sample Identification Number			
				11-24-14		Boeing PL2		SD-JOR 02			
Coordinates						Water Depth				Time	
North			East			Depth	Unit	Rep	Gear		
195 632			127 5812			13.8	f t	1	0.2 Grab	1242	
Penetration		Unit	Initials	Sulfide	VOA	Weather	Fines (%)	<b>Surficial Wood Estimate:</b> <b>Contact Points</b> _____ X 5 = _____ %			
Depth											
	c m	SSN				cloudy					
<b>Surficial sediment characteristics:</b>											
Biological:		_____ %		Debris:		_____ %		Oil Sheen:		None Trace (<5%) _____ %	
Moisture											
Very Wet		Wet		Moist		Damp		Dry			
Color		(Circle major & underline modifying)									
Light		Medium		Dark		Olive Gray		Brown		Black Other _____	
Major Constituent		(Circle major & underline modifying)									
Fine		Medium		Coarse		Gravel		Sand		Silt Clay _____	
Minor Constituent with trace											
Fine		Medium		Coarse		Gravel		Sand		Silt Clay _____	
<b>Subsurface sediment characteristics:</b>											
<b>Density / Consistency</b>											
Sand / Gravel -		Very Loose		Loose		Medium Dense		Dense		Very Dense	
Silt / Clay -		Very Soft		Soft		Medium Stiff		Stiff		Very Stiff Hard	
Moisture											
Very Wet		Wet		Moist		Damp		Dry			
Color		(Circle major & underline modifying)									
Light		Medium		Dark		Olive Gray		Brown		Black Other _____	
Major Constituent		(Circle major & underline modifying)									
Fine		Medium		Coarse		Gravel		Sand		Silt Clay _____	
Minor Constituent with trace											
Fine		Medium		Coarse		Gravel		Sand		Silt Clay _____	
Biological:		_____ %		Debris:		_____ %		Oil Sheen:		None Trace (<5%) _____ %	
<b>Comments:</b>											
FINE Silt surface layer 1/2 in thick AMEC Proj. BP2/Jorgensen SD-JOR02 QSC Form Initials: SSN Date: 11/24/2014											



Station SD-JOR02 R1



QUALITATIVE SAMPLE CHARACTERISTICS										Page ____ of ____	
Coordinate Datum				Date (mm/dd/yy)		Project Location		Sample Identification Number			
				11-24-14		Boeing PL2		SD- <del>PER</del> J-0A 02			
Coordinates						Water Depth				Time	
North			East			Depth	Unit	Rep	Gear		
195641			1275814			13.8	f t	2	0.2 Grab	1310	
Penetration			Sulfide	VOA	Weather	Surficial Wood Estimate:					
Depth	Unit	Initials				Contact Points					
18	c m	esm			cloudy	_____ X 5 = _____ %					
Surficial sediment characteristics:											
Biological:		_____ %		Debris:		_____ %		Oil Sheen:		None Trace (<5%) _____ %	
Moisture											
Very Wet		<u>Wet</u>		Moist		Damp		Dry			
Color		(Circle major & underline modifying)									
Light		<u>Medium</u>		Dark		Olive Gray <u>Brown</u>		Black Other _____			
Major Constituent		(Circle major & underline modifying)									
Fine		Medium		<u>Coarse</u>		<u>Gravel</u>		Sand Silt Clay _____			
Minor Constituent with trace											
<u>Fine</u>		Medium		Coarse		Gravel		Sand <u>Silt</u>		Clay _____	
Subsurface sediment characteristics:											
Density / Consistency											
<u>Sand / Gravel -</u>		<u>Very Loose</u>		Loose		Medium Dense		Dense		Very Dense	
<u>Silt / Clay -</u>		Very Soft		Soft		Medium Stiff		Stiff		Very Stiff Hard	
Moisture											
Very Wet		<u>Wet</u>		Moist		Damp		Dry			
Color		(Circle major & underline modifying)									
Light		<u>Medium</u>		Dark		Olive Gray <u>Brown</u>		Black Other _____			
Major Constituent		(Circle major & underline modifying)									
Fine		Medium		<u>Coarse</u>		<u>Gravel</u>		Sand Silt Clay _____			
Minor Constituent with trace											
Fine		Medium		<u>Coarse</u>		Gravel		<u>Sand</u>		Silt Clay _____	
Biological:		_____ %		Debris:		_____ %		Oil Sheen:		None Trace (<5%) _____ %	
Comments:											
attempt 1 - poor recovery - reject											
hang up on silt net, need to down river											
1310 attempt 2 mud downriver to avoid net											
1 1/2 to 2 in coarse gravel											
minor coarse sand											
little surface silt washing											

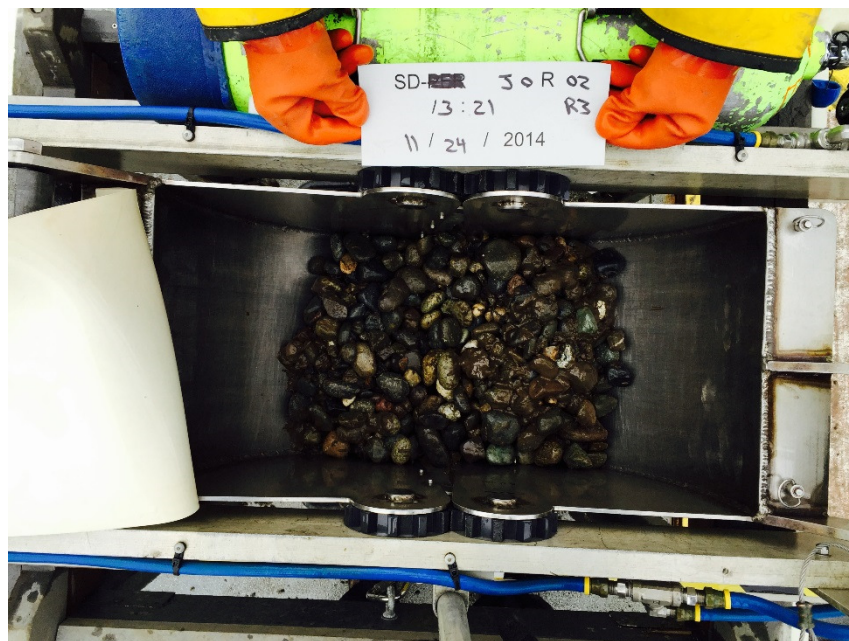


Station SD-JOR02 R2

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**AMEC, 3500 188th St. SW, Suite 601, Lynnwood, WA 98037, (425) 921-4000**





Station SD-JOR02 R3

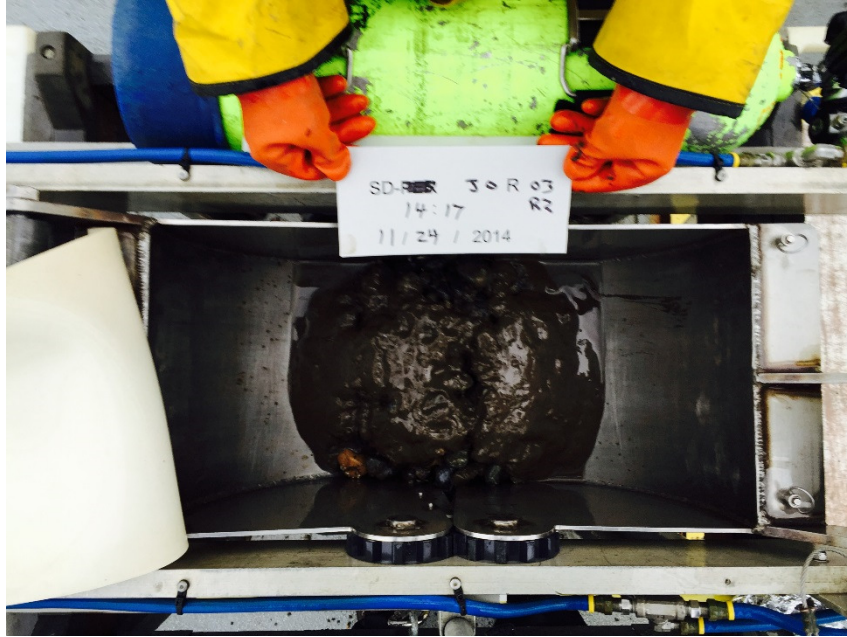
QUALITATIVE SAMPLE CHARACTERISTICS										Page ____ of ____	
Coordinate Datum				Date (mm/dd/yy)		Project Location		Sample Identification Number			
				11-24-14		Boeing PL2		SD- <del>PER</del> JOR03			
Coordinates						Water Depth				Time	
North			East			Depth	Unit	Rep	Gear		
145501			1275849			18.2	f t	1	0.2 Grab	1407	
Penetration			Sulfide	VOA	Weather	Surficial Wood Estimate:					
Depth	Unit	Initials				Contact Points					
15	c m	AS			cloudy	_____ X 5 = _____ %					
Surficial sediment characteristics:											
Biological:		%		Debris:		%		Oil Sheen:		None Trace (<5%) _____ %	
Moisture		Very Wet		Wet		Moist		Damp		Dry	
Color		Light		Medium		Dark		(Circle major & underline modifying)			
								Olive Gray Brown Black Other			
Major Constituent		Fine		Medium		Coarse		(Circle major & underline modifying)			
								Gravel Sand Silt Clay			
Minor Constituent with trace		Fine		Medium		Coarse		Gravel Sand Silt Clay			
Subsurface sediment characteristics:											
Density / Consistency											
Sand / Gravel -		Very Loose		Loose		Medium Dense		Dense		Very Dense	
Silt / Clay -		Very Soft		Soft		Medium Stiff		Stiff		Very Stiff Hard	
Moisture		Very Wet		Wet		Moist		Damp		Dry	
Color		Light		Medium		Dark		(Circle major & underline modifying)			
								Olive Gray Brown Black Other			
Major Constituent		Fine		Medium		Coarse		(Circle major & underline modifying)			
								Gravel Sand Silt Clay			
Minor Constituent with trace		Fine		Medium		Coarse		Gravel Sand Silt Clay			
Biological:		%		Debris:		%		Oil Sheen:		None Trace (<5%) _____ %	
Comments:											
1 - 1401 washed out 1 1/2 to 2 in gravel											
2 - 1404 " " silt layer pinca											
3 - 1407 sand											
AMEC Proj. BP2/Jorgensen											
SD-JOR03											
QSC Form											
Initials: <u>SL</u> Date: <u>11/24/2014</u>											
Alternate Station											



Station SD-JOR03 R1

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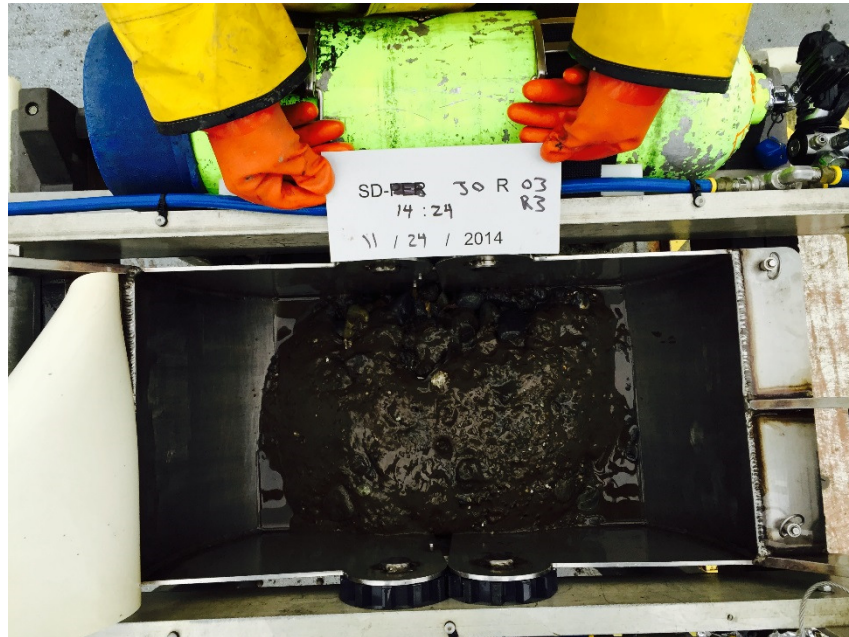
**AMEC**, 3500 188th St. SW, Suite 601, Lynnwood, WA 98037, (425) 921-4000



Station SD-JOR03 R2

QUALITATIVE SAMPLE CHARACTERISTICS										Page ____ of ____	
Coordinate Datum				Date (mm/dd/yy)		Project Location		Sample Identification Number			
				11-27-14		Boeing PL2		SD-PER 30803			
Coordinates						Water Depth				Time	
North			East			Depth	Unit	Rep	Gear		
195 498			127 5846			19.0	f t	3	0.2 Grab	1424	
Penetration		Initials	Sulfide	VOA	Weather	Fines (%)	Surficial Wood Estimate: Contact Points _____ X 5 = _____ %				
Depth	Unit										
12	cm	GSM			cloudy						
Surficial sediment characteristics:											
Biological:		%		Debris:		%		Oil Sheen:		None Trace (<5%) _____ %	
Moisture				Moist		Damp		Dry			
Very Wet		<u>Wet</u>									
Color				Dark		Olive		Gray		<u>Brown</u> Black Other _____	
Light		<u>Medium</u>									
Major Constituent				Coarse		Gravel		<u>Sand</u>		<u>Silt</u> Clay _____	
<u>Fine</u>		Medium									
Minor Constituent with trace				Coarse		Gravel		Sand		Silt Clay _____	
Fine		Medium									
Subsurface sediment characteristics:											
Density / Consistency											
<u>Sand / Gravel</u> -		<u>Very Loose</u>		Loose		Medium Dense		Dense		Very Dense	
<u>Silt / Clay</u> -		Very Soft		Soft		Medium Stiff		Stiff		Very Stiff Hard	
Moisture				Moist		Damp		Dry			
Very Wet		<u>Wet</u>									
Color				Dark		Olive		Gray		<u>Brown</u> Black Other _____	
Light		<u>Medium</u>									
Major Constituent				<u>Coarse</u>		<u>Gravel</u>		Sand		Silt Clay _____	
Fine		Medium									
Minor Constituent with trace				<u>Coarse</u>		Gravel		<u>Sand</u>		<u>Silt</u> Clay _____	
Fine		Medium									
Biological:		%		Debris:		%		Oil Sheen:		None Trace (<5%) _____ %	
Comments:											
1 in thick silt layer over											
coarse sand with gravel											





Station SD-JOR03 R3

## Page of

Amin\Field Forms\QSC





Station SD-JOR04 R1

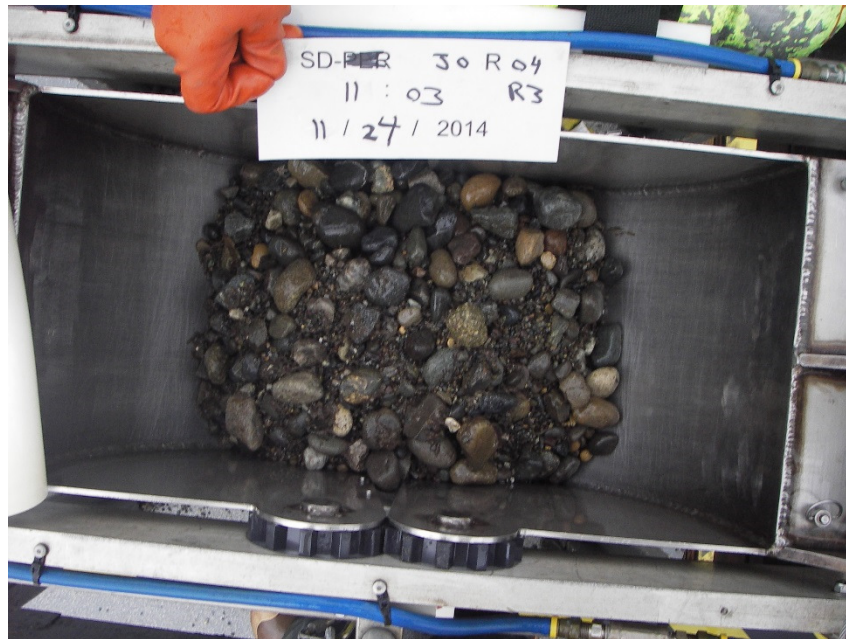
QUALITATIVE SAMPLE CHARACTERISTICS										Page ____ of ____	
Coordinate Datum				Date (mm/dd/yy)		Project Location		Sample Identification Number			
				11-24-14		Boeing PL2		SD- <del>PER</del> 308.04			
Coordinates						Water Depth				Time	
North			East			Depth	Unit	Rep	Gear		
195539			1275844			15.0	f	2	0.2 Grab	1052	
Penetration		Initials	Sulfide	VOA	Weather	Fines (%)	Surficial Wood Estimate: Contact Points _____ X 5 = _____ %				
Depth	Unit										
10	c m	SM			cloudy						
Surficial sediment characteristics:											
Biological:		_____ %		Debris:		_____ %		Oil Sheen:		None Trace (<5%) _____ %	
Moisture		Very Wet		Wet		Moist		Damp		Dry	
Color		Light		Medium		Dark		Olive		Gray Brown Black Other _____	
Major Constituent		Fine		Medium		Coarse		Gravel		Sand Silt Clay _____	
Minor Constituent with trace		Fine		Medium		Coarse		Gravel		Sand Silt Clay _____	
Trace of surface silt											
Subsurface sediment characteristics:											
Density / Consistency											
Sand / Gravel -		Very Loose		Loose		Medium Dense		Dense		Very Dense	
Silt / Clay -		Very Soft		Soft		Medium Stiff		Stiff		Very Stiff Hard	
Moisture		Very Wet		Wet		Moist		Damp		Dry	
Color		Light		Medium		Dark		Olive		Gray Brown Black Other _____	
Major Constituent		Fine		Medium		Coarse		Gravel		Sand Silt Clay _____	
Minor Constituent with trace		Fine		Medium		Coarse		Gravel		Sand Silt Clay _____	
Biological:		_____ %		Debris:		_____ %		Oil Sheen:		None Trace (<5%) _____ %	
Comments:											
Washing little silt on surface											
Gravel 1 1/2 to 2 in min.											



Station SD-JOR04 R2

## Page \_\_\_\_ of \_\_\_\_

Amin\Field Forms\QSC



Station SD-JOR04 R3

# QUALITATIVE SAMPLE CHARACTERISTICS

Page \_\_\_\_ of \_\_\_\_

Coordinate Datum	Date (mm/dd/yy)	Project Location	Sample Identification Number
	11-24-14	Boeing PL2	SD-PER JOR 05

Coordinates		Water Depth		Rep	Gear	Time
North	East	Depth	Unit			
195396	1275862	23	f t	1	0.2 Grab	842

Penetration	Unit	Initials	Sulfide	VOA	Weather	Fines (%)
15	c m				cloudy	

Surficial Wood Estimate:

Contact Points

\_\_\_\_\_ X 5 = \_\_\_\_\_ %

## Surficial sediment characteristics:

Biological: \_\_\_\_\_ % Debris: \_\_\_\_\_ % Oil Sheen: None Trace (<5%) \_\_\_\_\_ %

Moisture  
Very Wet Wet Moist Damp Dry

Color  
Light Medium Dark Olive Gray Brown Black Other \_\_\_\_\_

Major Constituent  
Fine Medium Coarse Gravel Sand Silt Clay

Minor Constituent with trace  
Fine Medium Coarse Gravel Sand Silt Clay

## Subsurface sediment characteristics:

### Density / Consistency

Sand / Gravel - Very Loose Loose Medium Dense Dense Very Dense  
Silt / Clay - Very Soft Soft Medium Stiff Stiff Very Stiff Hard

Moisture  
Very Wet Wet Moist Damp Dry

Color  
Light Medium Dark Olive Gray Brown Black Other \_\_\_\_\_

Major Constituent  
Fine Medium Coarse Gravel Sand Silt Clay

Minor Constituent with trace  
Fine Medium Coarse Gravel Sand Silt Clay

Biological: \_\_\_\_\_ % Debris: \_\_\_\_\_ % Oil Sheen: None Trace (<5%) \_\_\_\_\_ %

### Comments:

Top layer of silt 1 in thick  
Coarse gravel 1 1/2 min under silt then  
Coarse sand layer with little or no fines

AMEC Proj. BP2/Jorgensen

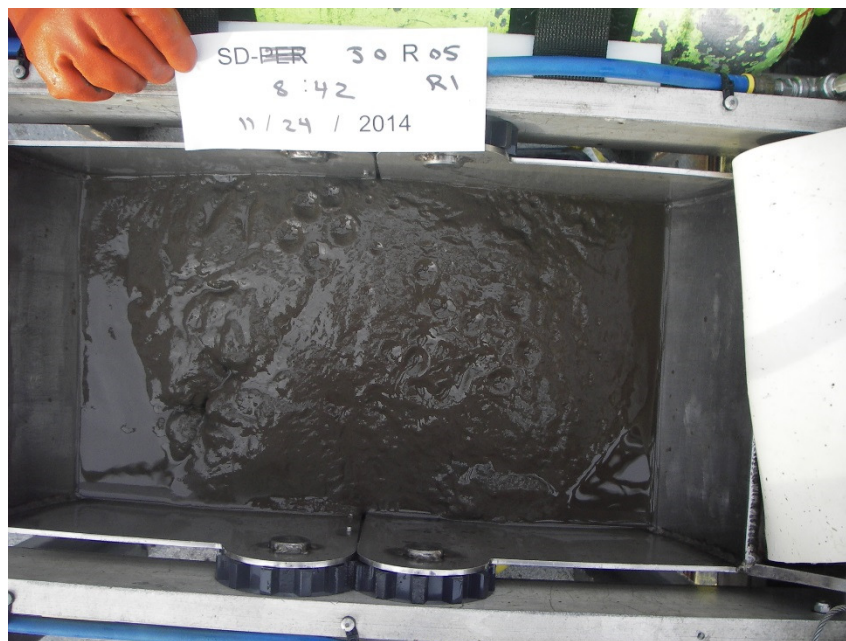
SD-JOR05

QSC Form

Initials: GSN Date: 11/24/2014

AMEC, 3500 188th St. SW, Suite 601, Lynnwood, W,

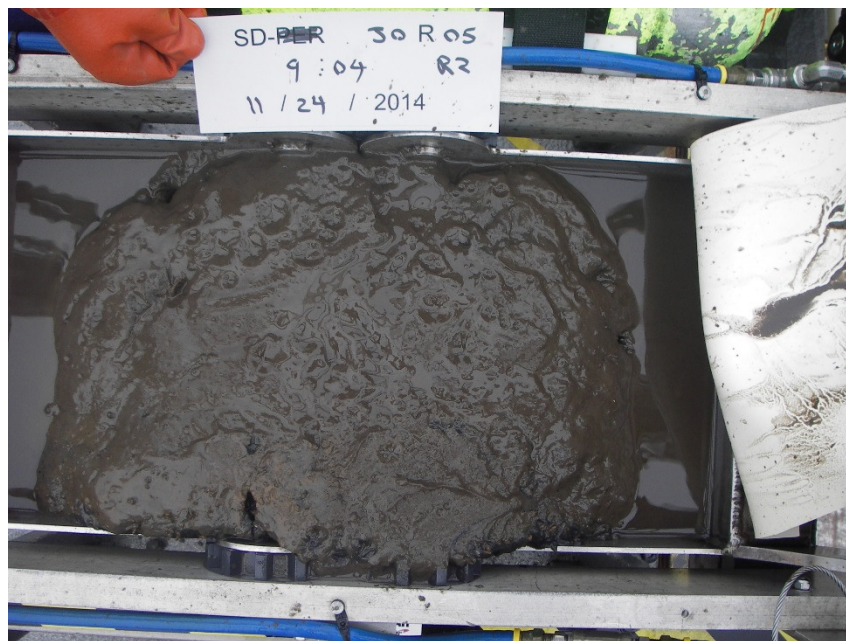




Station SD-JOR05 R1

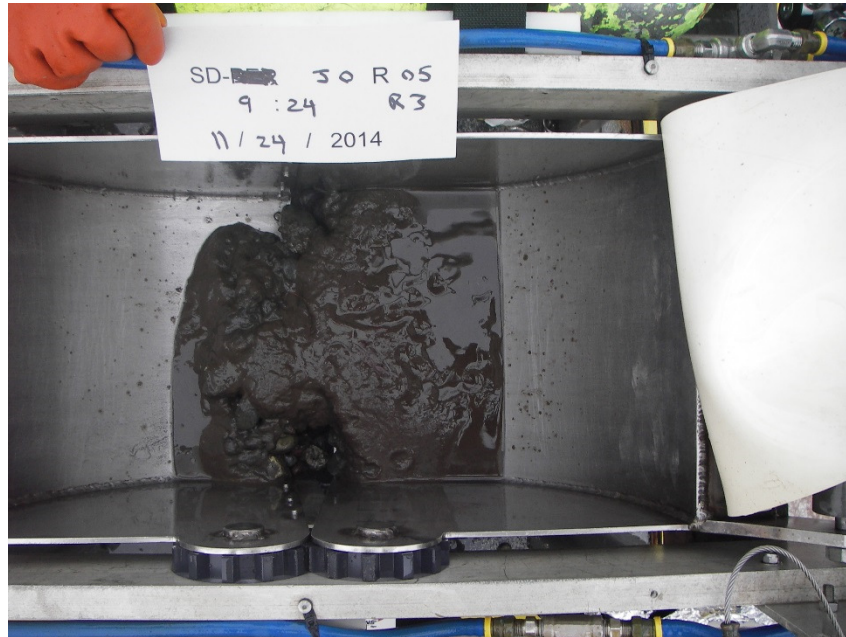
QUALITATIVE SAMPLE CHARACTERISTICS										Page ____ of ____																	
Coordinate Datum				Date (mm/dd/yy)		Project Location		Sample Identification Number																			
				11-24-14		Boeing PL2		SD- <del>PER</del> 30R 05																			
Coordinates						Water Depth				Time																	
North			East			Depth	Unit	Rep	Gear																		
195397			1275864			22.5	f t	2	0.2 Grab	904																	
<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td>Penetration</td> <td></td> <td>Sulfide</td> <td>VOA</td> <td>Weather</td> <td>Fines (%)</td> </tr> <tr> <td>Depth</td> <td>Unit</td> <td>Initials</td> <td></td> <td></td> <td></td> </tr> <tr> <td>25</td> <td>c m</td> <td>GM</td> <td></td> <td>cloudy</td> <td></td> </tr> </table>				Penetration		Sulfide	VOA	Weather	Fines (%)	Depth	Unit	Initials				25	c m	GM		cloudy		<b>Surficial Wood Estimate:</b> <b>Contact Points</b> _____ X 5 = _____ %					
Penetration		Sulfide	VOA	Weather	Fines (%)																						
Depth	Unit	Initials																									
25	c m	GM		cloudy																							
<b>Surficial sediment characteristics:</b> Biological: _____ %    Debris: _____ %    Oil Sheen:    None    Trace (<5%) _____ % Moisture Very Wet <u>Wet</u> Moist    Damp    Dry Color Light <u>Medium</u> Dark    Olive    Gray <u>Brown</u> Black    Other _____ (Circle major & underline modifying) Major Constituent <u>Fine</u> Medium    Coarse    Gravel    Sand <u>Silt</u> Clay (Circle major & underline modifying) Minor Constituent with trace Fine    Medium    Coarse    Gravel    Sand    Silt    Clay																											
<b>Subsurface sediment characteristics:</b> Density / Consistency <u>Sand / Gravel -</u> <u>Very Loose</u> Loose    Medium Dense    Dense    Very Dense <u>Silt / Clay -</u> Very Soft    Soft    Medium Stiff    Stiff    Very Stiff    Hard Moisture Very Wet <u>Wet</u> Moist    Damp    Dry Color Light <u>Medium</u> Dark    Olive    Gray <u>Brown</u> Black    Other _____ (Circle major & underline modifying) Major Constituent Fine    Medium <u>Coarse</u> Gravel <u>Sand</u> Silt    Clay (Circle major & underline modifying) Minor Constituent with trace Fine    Medium <u>Coarse</u> <u>Gravel</u> Sand    Silt    Clay Biological: _____ %    Debris: <u>1 in +</u> _____ %    Oil Sheen:    None    Trace (<5%) _____ %																											
<b>Comments:</b> <u>Slight over penetration</u> <u>Silt layer approximately 1 in thick</u> <u>then coarse sand with gravel</u>																											





Station SD-JOR05 R2

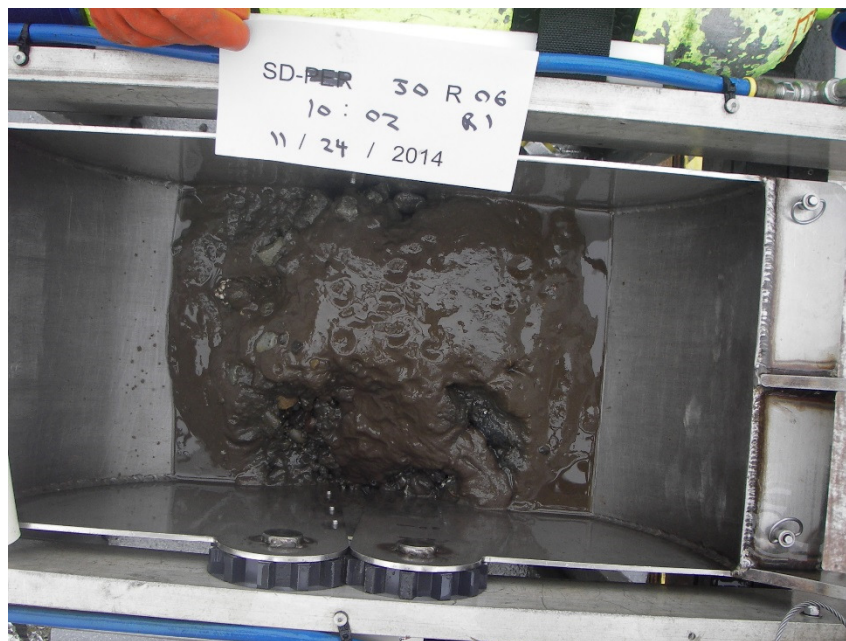
QUALITATIVE SAMPLE CHARACTERISTICS										Page ____ of ____	
Coordinate Datum				Date (mm/dd/yy)		Project Location		Sample Identification Number			
				11-24-14		Boeing PL2		SD- <del>PER</del> JOR-05			
Coordinates						Water Depth				Time	
North			East			Depth	Unit	Rep	Gear		
195397			1275860			23.3	f t	3	0.2 Grab	924	
Penetration			Sulfide	VOA	Weather		Fines (%)				
Depth	Unit	Initials									
5	c m	SM			cloudy						
						Surficial Wood Estimate:					
						Contact Points _____ X 5 = _____ %					
Surficial sediment characteristics:											
Biological:		_____ %		Debris:		_____ %		Oil Sheen:		None Trace (<5%) _____ %	
Moisture		Very Wet		<u>Wet</u>		Moist		Damp		Dry	
Color		Light		<u>Medium</u>		Dark		(Circle major & underline modifying)			
						Olive		Gray		<u>Brown</u> Black Other _____	
Major Constituent		(Circle major & underline modifying)									
<u>Fine</u>		Medium		Coarse		Gravel		'Sand		<u>Silt</u> Clay _____	
Minor Constituent with trace											
Fine		Medium		Coarse		Gravel		Sand		Silt Clay _____	
Subsurface sediment characteristics:											
Density / Consistency											
<u>Sand / Gravel -</u>		<u>Very Loose</u>		Loose		Medium Dense		Dense		Very Dense	
<u>Silt / Clay -</u>		Very Soft		Soft		Medium Stiff		Stiff		Very Stiff Hard	
Moisture		Very Wet		<u>Wet</u>		Moist		Damp		Dry	
Color		Light		<u>Medium</u>		Dark		(Circle major & underline modifying)			
						Olive		Gray		<u>Brown</u> Black Other _____	
Major Constituent		(Circle major & underline modifying)									
Fine		Medium		<u>Coarse</u>		<u>Gravel</u>		<u>Sand</u>		Silt Clay _____	
Minor Constituent with trace											
Fine		Medium		Coarse		Gravel		Sand		Silt Clay _____	
Biological:		_____ %		Debris:		_____ %		Oil Sheen:		None Trace (<5%) _____ %	
Comments:											
2 in layer of fine silt + clay											
Sand gravel with 1 HR fine											



Station SD-JOR05 R3

## Page \_\_\_\_ of \_\_\_\_

eld Forms\QSC



Station SD-JOR06 R1



# QUALITATIVE SAMPLE CHARACTERISTICS

Page \_\_\_\_ of \_\_\_\_

Coordinate Datum	Date (mm/dd/yy)	Project Location	Sample Identification Number
	11-24-14	Boeing PL2	SD- <del>PER</del> 30806

Coordinates		Water Depth		Rep	Gear	Time
North	East	Depth	Unit			
195398	1275891	16.2	f t	2	0.2 Grab	1014

Penetration	Unit	Initials	Sulfide	VOA	Weather	Fines (%)
Depth						
10	c m	GSR			clayey	

Surficial Wood Estimate:

Contact Points

\_\_\_\_\_ X 5 = \_\_\_\_\_ %

## Surficial sediment characteristics:

Biological: \_\_\_\_\_ % Debris: \_\_\_\_\_ % Oil Sheen: None Trace (<5%) \_\_\_\_\_ %

### Moisture

Very Wet Wet Moist Damp Dry

### Color

Light Medium Dark Olive Gray Brown Black Other \_\_\_\_\_

(Circle major & underline modifying)

### Major Constituent

Fine Medium Coarse Gravel Sand Silt Clay

(Circle major & underline modifying)

### Minor Constituent with trace

Fine Medium Coarse Gravel Sand Silt Clay

## Subsurface sediment characteristics:

### Density / Consistency

Sand / Gravel - Very Loose Loose Medium Dense Dense Very Dense  
Silt / Clay - Very Soft Soft Medium Stiff Stiff Very Stiff Hard

### Moisture

Very Wet Wet Moist Damp Dry

### Color

Light Medium Dark Olive Gray Brown Black Other \_\_\_\_\_

(Circle major & underline modifying)

### Major Constituent

Fine Medium Coarse Gravel Sand Silt Clay

(Circle major & underline modifying)

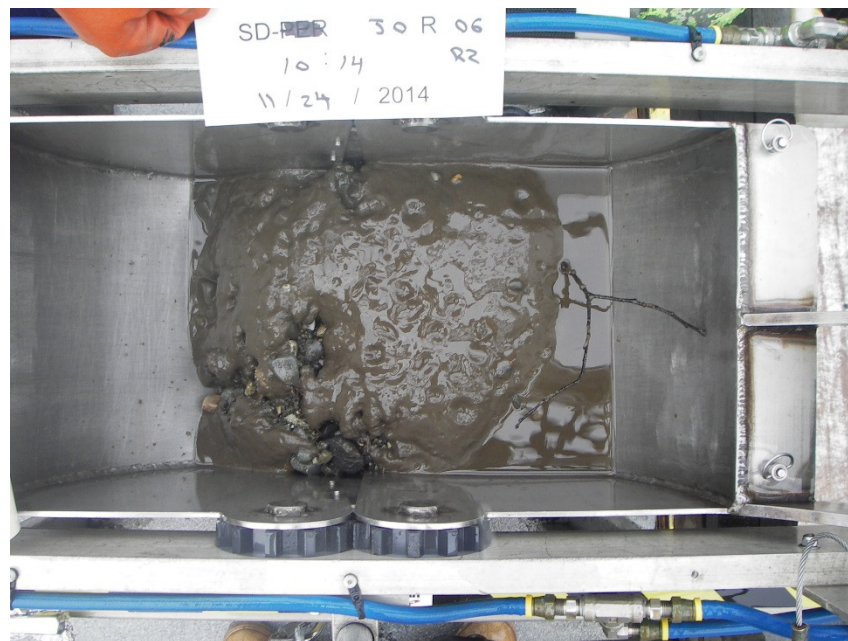
### Minor Constituent with trace

Fine Medium Coarse Gravel Sand Silt Clay

Biological: \_\_\_\_\_ % Debris: 1 1/2 min \_\_\_\_\_ % Oil Sheen: None Trace (<5%) \_\_\_\_\_ %

### Comments:

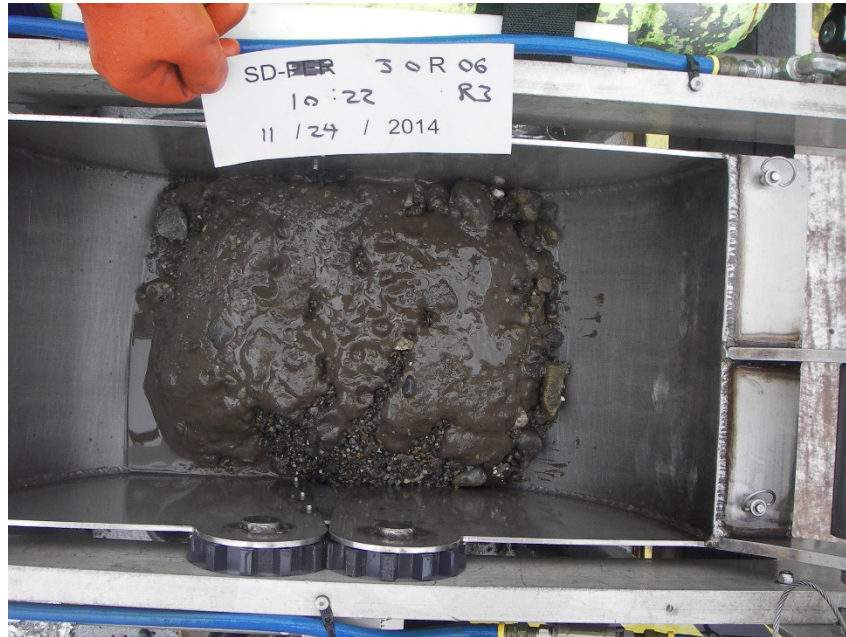
1011 gear penetration - washed  
surface layer of silt approx 1 in thick



Station SD-JOR06 R2

QUALITATIVE SAMPLE CHARACTERISTICS										Page ____ of ____
Coordinate Datum				Date (mm/dd/yy)		Project Location		Sample Identification Number		
				11-24-14		Boeing PL2		SD- <del>PER</del> JOR 96		
Coordinates						Water Depth				
North			East			Depth	Unit	Rep	Gear	
145398			1275888			16.3	f t	3	0.2 Grab	
Penetration		Unit	Initials	Sulfide	VOA	Weather	Fines (%)	Surficial Wood Estimate: Contact Points _____ X 5 = _____ %		
Depth										
10	c m	ESM				clay				
Surficial sediment characteristics:										
Biological:		_____ %		Debris:		_____ %		Oil Sheen: None Trace (<5%) _____ %		
Moisture		Very Wet		Wet		Moist		Damp Dry		
Color		Light		Medium		Dark		(Circle major & underline modifying) Olive Gray <u>Brown</u> Black Other _____		
Major Constituent		Fine		Medium		Coarse		(Circle major & underline modifying) Gravel 'Sand <u>Silt</u> Clay _____		
Minor Constituent with trace		Fine		Medium		Coarse		Gravel Sand Silt Clay _____		
Subsurface sediment characteristics:										
Density / Consistency										
Sand / Gravel -		Very Loose		Loose		Medium Dense		Dense Very Dense		
Silt / Clay -		Very Soft		Soft		Medium Stiff		Stiff Very Stiff Hard		
Moisture		Very Wet		Wet		Moist		Damp Dry		
Color		Light		Medium		Dark		(Circle major & underline modifying) Olive Gray <u>Brown</u> Black Other _____		
Major Constituent		Fine		Medium		Coarse		(Circle major & underline modifying) Gravel <u>Sand</u> Silt Clay _____		
Minor Constituent with trace		Fine		Medium		Coarse		Gravel Sand Silt Clay _____		
Biological:		_____ %		Debris:		_____ %		Oil Sheen: None Trace (<5%) _____ %		
Comments:										
Some washing										
Surficial silt layer 1/2 in or thinner										



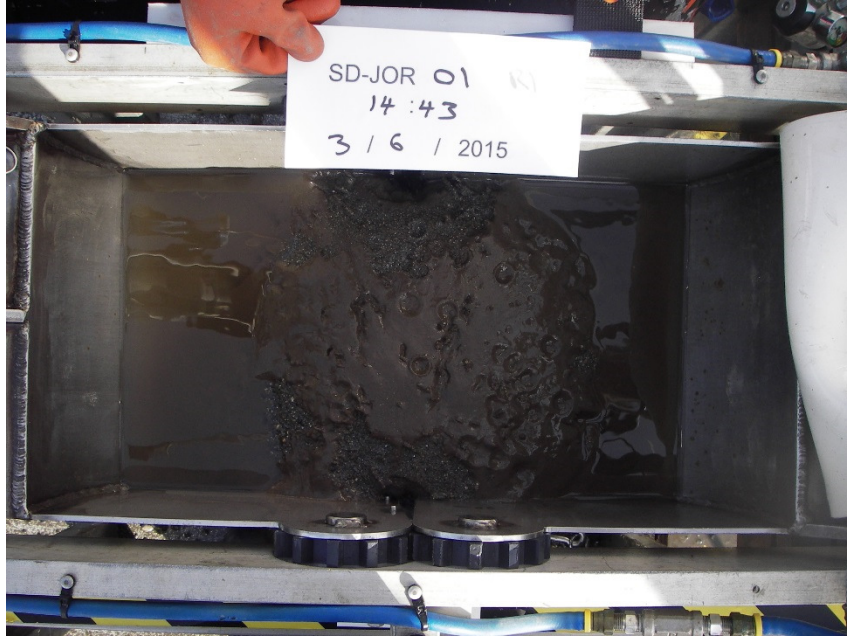


Station SD-JOR06 R3

## **POST-DSOA DREDGING**

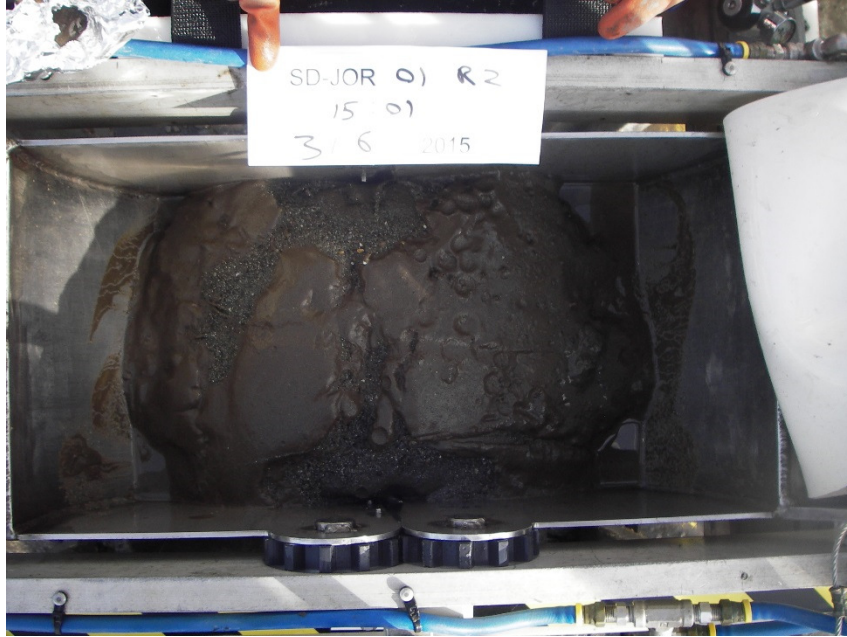
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QUALITATIVE SAMPLE CHARACTERISTICS										Page ____ of ____
Coordinate Datum				Date (mm/dd/yy)		Project Location		Sample Identification Number		
WA State Plane, N Zone, NAD 83, Survey Ft				3-6-15		Boeing PL2		SD-JOR 01		
Coordinates						Water Depth		Time		
North			1275782 East			Depth	Unit	Rep	Gear	
145633			1275783			19.5	f t	1	0.2 Grab	
Penetration		Initials	Sulfide	VOA	Weather	Fines (%)	Surficial Wood Estimate: Contact Points _____ X 5 = _____ %			
Depth	Unit									
10	c m	63n			sunny					
Surficial sediment characteristics:										
Biological:		41 %		Debris:		0 %		Oil Sheen: None Trace (<5%) _____ %		
Moisture		Very Wet Wet Moist Damp Dry								
Color		Light Medium Dark Olive Gray Brown Black Other _____		(Circle major & underline modifying)						
Major Constituent		Fine Medium Coarse Gravel Sand Silt Clay		(Circle major & underline modifying)						
Minor Constituent with trace		Fine Medium Coarse Gravel Sand Silt Clay								
Subsurface sediment characteristics:										
Density / Consistency										
Sand / Gravel -		Very Loose Loose Medium Dense Dense Very Dense								
Silt / Clay -		Very Soft Soft Medium Stiff Stiff Very Stiff Hard								
Moisture		Very Wet Wet Moist Damp Dry								
Color		Light Medium Dark Olive Gray Brown Black Other _____		(Circle major & underline modifying)						
Major Constituent		Fine Medium Coarse Gravel Sand Silt Clay		(Circle major & underline modifying)						
Minor Constituent with trace		Fine Medium Coarse Gravel Sand Silt Clay								
Biological:		0 %		Debris:		0 %		Oil Sheen: None Trace (<5%) _____ %		
Comments:										
2 1/8" silt on top of sand layer tube worms present										
						AMEC Proj. BP2/Jorgensen				
						SD-JOR01				
						QSC Form				
						Date: 3 / 6 /15 Time: 1443				



Station SD-JOR01 R1

QUALITATIVE SAMPLE CHARACTERISTICS										Page ____ of ____
Coordinate Datum				Date (mm/dd/yy)		Project Location		Sample Identification Number		
WA State Plane, N Zone, NAD 83, Survey Ft				3-6-15		Boeing PL2		SD-JOR 01		
Coordinates						Water Depth			Time	
North			East			Depth	Unit	Rep	Gear	
195632			1275779			21.1	f t	2	0.2 Grab	
Penetration		Unit	Initials	Sulfide	VOA	Weather	Fines (%)	<b>Surficial Wood Estimate:</b> <b>Contact Points</b> _____ X 5 = _____ %		
Depth										
20	c m		25m			sunny				
<b>Surficial sediment characteristics:</b>										
Biological:		0 %		Debris:		0 %		Oil Sheen: None Trace (<5%) _____ %		
Moisture		Very Wet		Wet		Moist		Damp Dry		
Color		Light		Medium		Dark		(Circle major & underline modifying) Olive Gray <u>Brown</u> Black Other _____		
Major Constituent		Fine		Medium		Coarse		(Circle major & underline modifying) Gravel Sand <u>Silt</u> Clay _____		
Minor Constituent with trace		Fine		Medium		Coarse		Gravel <u>Sand</u> Silt Clay _____		
<b>Subsurface sediment characteristics:</b>										
<b>Density / Consistency</b>										
<u>Sand / Gravel -</u>		Very Loose		<u>Loose</u>		Medium Dense		Dense Very Dense		
<u>Silt / Clay -</u>		Very Soft		Soft		Medium Stiff		Stiff Very Stiff Hard		
Moisture		Very Wet		Wet		Moist		Damp Dry		
Color		Light		Medium		Dark		(Circle major & underline modifying) Olive Gray <u>Brown</u> Black Other _____		
Major Constituent		Fine		Medium		Coarse		(Circle major & underline modifying) Gravel <u>Sand</u> Silt Clay _____		
Minor Constituent with trace		Fine		Medium		Coarse		Gravel <u>Gravel</u> Sand Silt Clay _____		
Biological:		_____ %		Debris:		_____ %		Oil Sheen: None Trace (<5%) _____ %		
<b>Comments:</b>										
attempt 1 rock in jaw - leakage - reject										
attempt 2 success										



Station SD-JOR01 R2



QUALITATIVE SAMPLE CHARACTERISTICS										Page ____ of ____
Coordinate Datum				Date (mm/dd/yy)		Project Location		Sample Identification Number		
WA State Plane, N Zone, NAD 83, Survey Ft				3-6-15		Boeing PL2		SD-JOR 91		
Coordinates						Water Depth			Time	
North			East			Depth	Unit	Rep	Gear	
195637			1275779			21.3	f t	3	0.2 Grab	
Penetration			Sulfide	VOA	Weather	Surficial Wood Estimate:				
Depth	Unit	Initials				Contact Points _____ X 5 = _____ %				
15	c m	65m			sunny					
Surficial sediment characteristics:										
Biological:		0 %		Debris:		0 %		Oil Sheen: None Trace (<5%) _____ %		
Moisture		Very Wet		Wet		Moist		Damp Dry		
Color		Light		Medium		Dark		(Circle major & underline modifying) Olive Gray Brown Black Other _____		
Major Constituent		Fine		Medium		Coarse		(Circle major & underline modifying) Gravel Sand Silt Clay _____		
Minor Constituent with trace		Fine		Medium		Coarse		Gravel Sand Silt Clay _____		
Subsurface sediment characteristics:										
Density / Consistency										
Sand / Gravel -		Very Loose		Loose		Medium Dense		Dense Very Dense		
Silt / Clay -		Very Soft		Soft		Medium Stiff		Stiff Very Stiff Hard		
Moisture		Very Wet		Wet		Moist		Damp Dry		
Color		Light		Medium		Dark		(Circle major & underline modifying) Olive Gray Brown Black Other _____		
Major Constituent		Fine		Medium		Coarse		(Circle major & underline modifying) Gravel Sand Silt Clay _____		
Minor Constituent with trace		Fine		Medium		Coarse		Gravel Sand Silt Clay _____		
Biological:		0 %		Debris:		0 %		Oil Sheen: None Trace (<5%) _____ %		
Comments:										
attempt 1 reject rock in jaws - reject										
attempt 2 poor penetration - reject										
attempt 3 reject at station										
attempt 4 reject poor penetration										



Station SD-JOR 01 R3

# QUALITATIVE SAMPLE CHARACTERISTICS

Page \_\_\_\_ of \_\_\_\_

Coordinate Datum	Date (mm/dd/yy)	Project Location	Sample Identification Number
WA State Plane, N Zone, NAD 83, Survey Ft	3-6-15	Boeing PL2	SD-JOR 92

Coordinates		Water Depth		Rep	Gear	Time
North	East	Depth	Unit			
195633	1275808	13.6	f t	1	0.2 Grab	1407

Penetration	Initials	Sulfide	VOA	Weather	Fines (%)
Depth Unit	6.5 m			sunny	

## Surficial Wood Estimate:

### Contact Points

\_\_\_\_\_ X 5 = \_\_\_\_\_ %

## Surficial sediment characteristics:

Biological: 0 % Debris: 0 % Oil Sheen: None Trace (<5%) \_\_\_\_\_ %

### Moisture

Very Wet Wet Moist Damp Dry

### Color

Light Medium Dark Olive Gray Brown Black Other \_\_\_\_\_

(Circle major & underline modifying)

### Major Constituent

Fine Medium Coarse Gravel Sand Silt Clay

(Circle major & underline modifying)

### Minor Constituent with trace

Fine Medium Coarse Gravel Sand Silt Clay

## Subsurface sediment characteristics:

### Density / Consistency

Sand / Gravel - Very Loose Loose Medium Dense Dense Very Dense  
Silt / Clay - Very Soft Soft Medium Stiff Stiff Very Stiff Hard

### Moisture

Very Wet Wet Moist Damp Dry

### Color

Light Medium Dark Olive Gray Brown Black Other \_\_\_\_\_

(Circle major & underline modifying)

### Major Constituent

Fine Medium Coarse Gravel Sand Silt Clay

(Circle major & underline modifying)

### Minor Constituent with trace

Fine Medium Coarse Gravel Sand Silt Clay

Biological: \_\_\_\_\_ % Debris: \_\_\_\_\_ % Oil Sheen: None Trace (<5%) \_\_\_\_\_ %

### Comments:

attempt 1 rock in jaws - reject  
 GPS labeled as Rep 2  
 much of grab was lost, sample is from undisturbed area

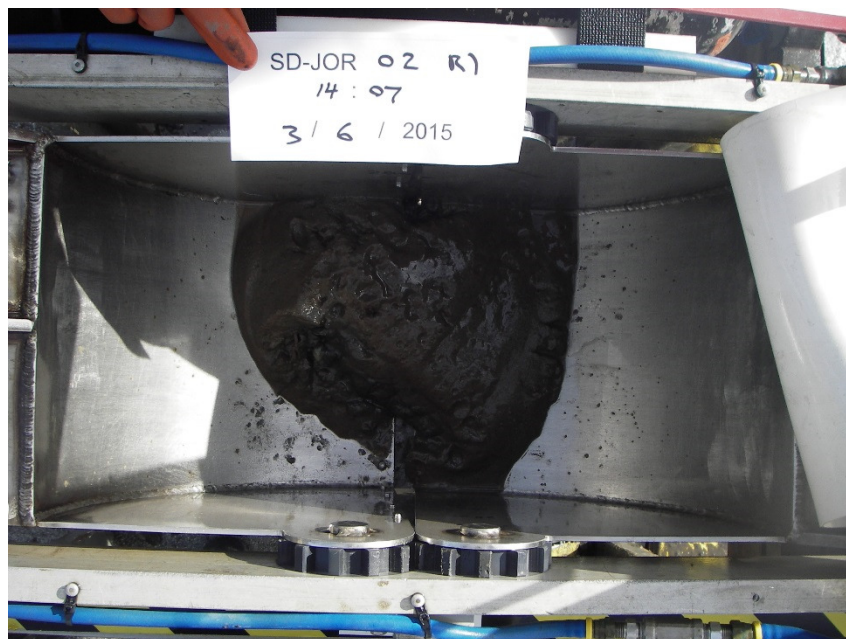
AMEC Proj. BP2/Jorgensen

SD-JOR02

QSC Form

Date: 3/6/15 Time: 1407

AMEC, 3500 188th St. SW, Suite 601, Lynnwood, WA



Station SD-JOR02 R1

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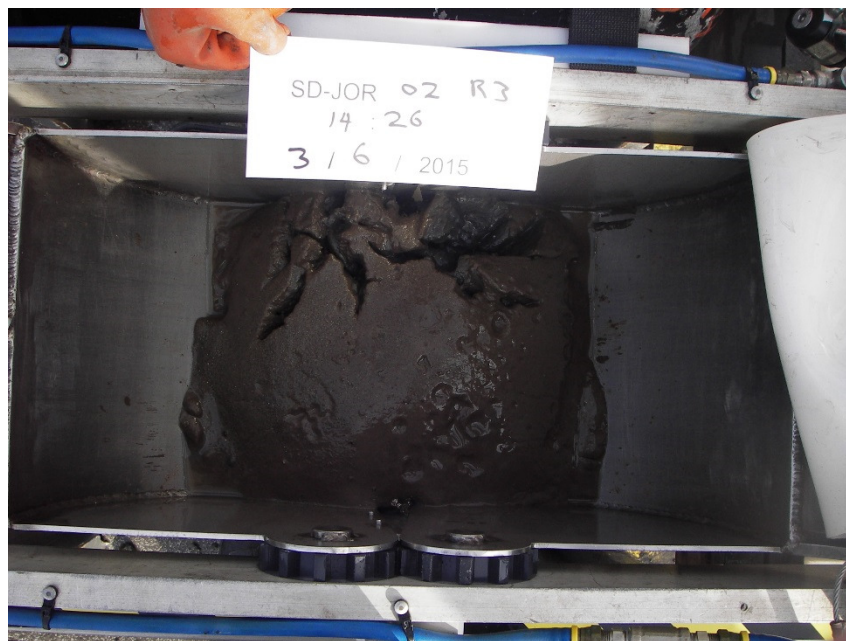


Station SD-JOR02 R2



## Page of

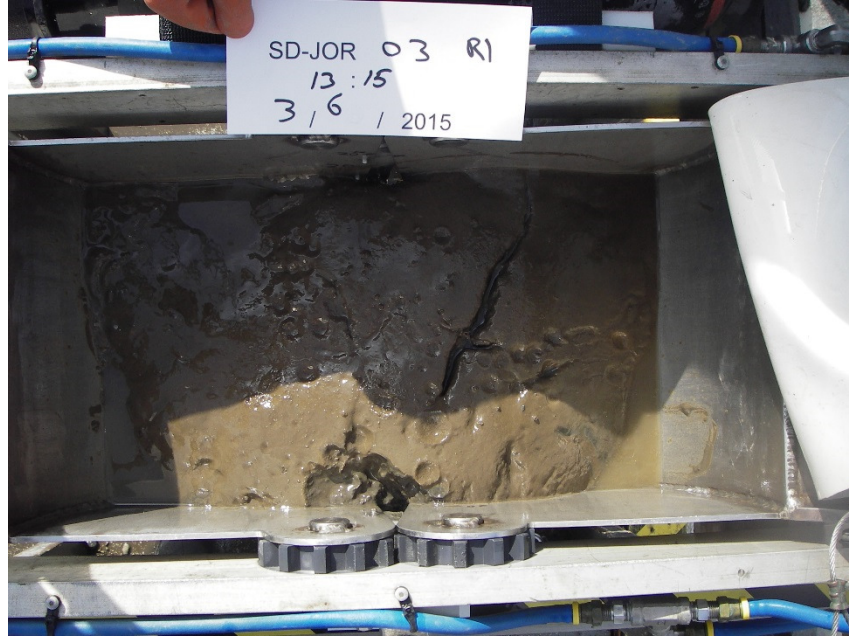
**AMEC**, 3500 188th St. SW, Suite 601, Lynnwood, WA 98037, (425) 921-4000



Station SD-JOR02 R3

## Page \_\_\_\_ of \_\_\_\_

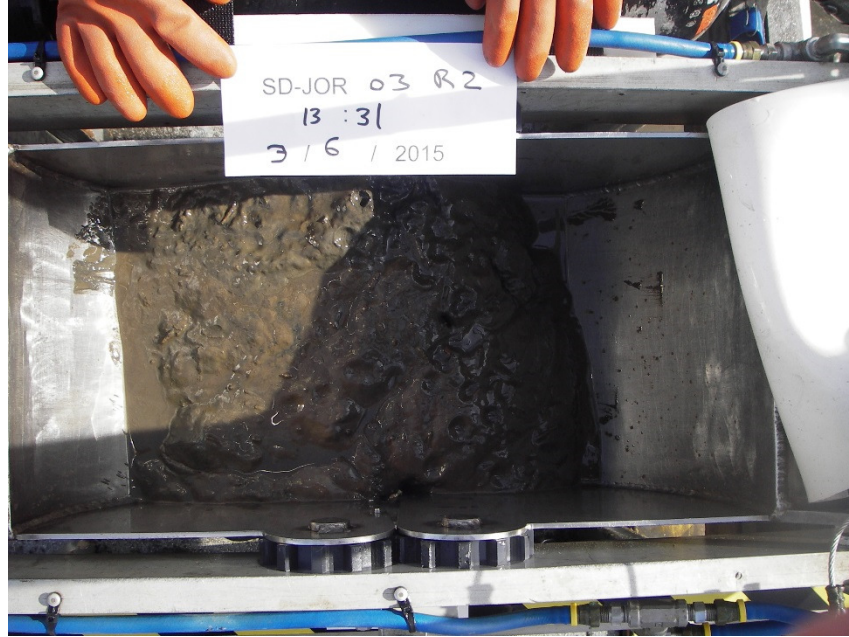
Amin\Field Forms\QSC



Station SD-JOR03 R1

## Page of

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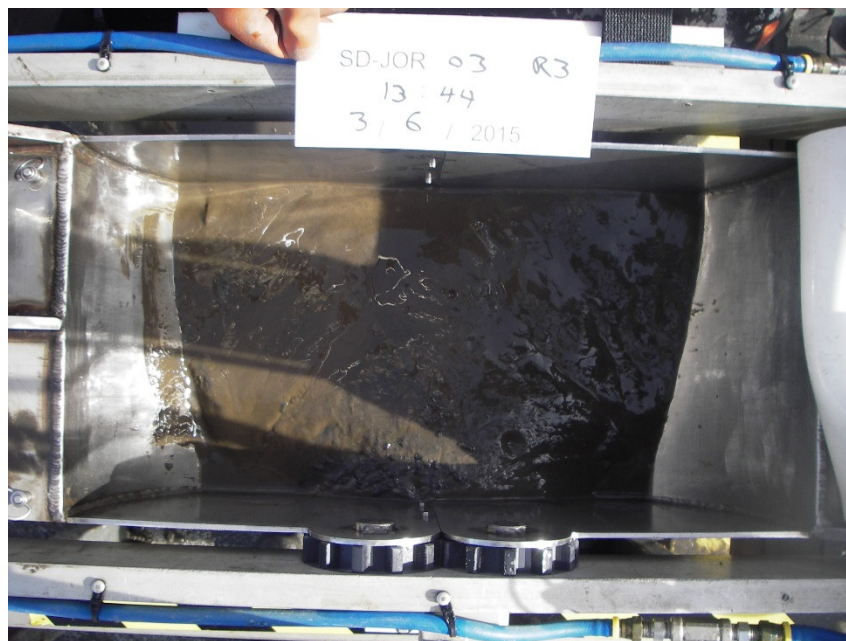


Station SD-JOR03 R2



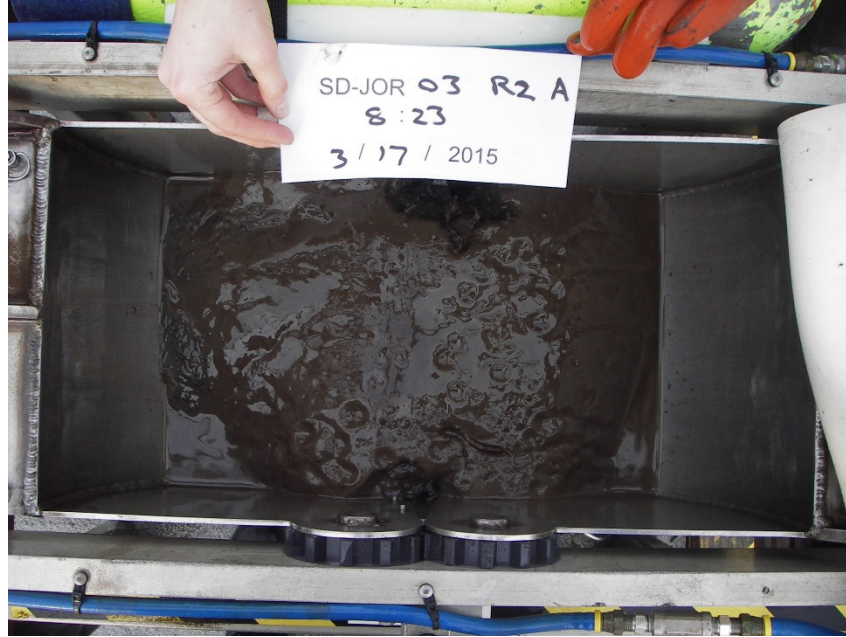
## Page of

**AMEC**, 3500 188th St. SW, Suite 601, Lynnwood, WA 98037, (425) 921-4000



Station SD-JOR03 R3

QUALITATIVE SAMPLE CHARACTERISTICS										Page ____ of ____
Coordinate Datum				Date (mm/dd/yy)		Project Location		Sample Identification Number		
WA State Plane, N Zone, NAD 83, Survey Ft				3-17-15		Boeing PL2		SD-JOR 03 R2		
Coordinates						Water Depth				
North			East			Depth	Unit	Rep	Gear	
127498			1275844			17.0	f t	A	0.2 Grab	
Penetration		Initials	Sulfide	VOA	Weather	Fines (%)	<b>Surficial Wood Estimate:</b> <b>Contact Points</b> _____ X 5 = _____ %			
Depth	Unit									
17	c m	SM			cloudy					
<b>Surficial sediment characteristics:</b> Biological: <u>&lt;1 (tube worms)</u> %    Debris: <u>0</u> %    Oil Sheen: <u>None</u> Trace (<5%) _____ % Moisture:    Very Wet <u>Wet</u> Moist    Damp    Dry Color:    Light <u>Medium</u> Dark    Olive <u>Gray</u> Brown    Black    Other _____ Major Constituent: <u>Fine</u> Medium    Coarse    Gravel    Sand <u>Silt</u> Clay _____ Minor Constituent with trace:    Fine    Medium    Coarse    Gravel    Sand    Silt    Clay _____										
<b>Subsurface sediment characteristics:</b> Density / Consistency <u>Sand / Gravel -</u> Very Loose    Loose    Medium Dense    Dense    Very Dense <u>Silt / Clay -</u> Very Soft <u>Soft</u> Medium Stiff    Stiff    Very Stiff    Hard Moisture:    Very Wet <u>Wet</u> Moist    Damp    Dry Color:    Light    Medium <u>Dark</u> Olive <u>Gray</u> Brown    Black    Other _____ Major Constituent: <u>Fine</u> Medium    Coarse    Gravel    Sand <u>Silt</u> Clay _____ Minor Constituent with trace:    Fine    Medium <u>Coarse</u> <u>Gravel</u> Sand    Silt    Clay _____ Biological: <u>0</u> %    Debris: <u>0</u> %    Oil Sheen: <u>None</u> Trace (<5%) _____ %										
<b>Comments:</b> <u>3" layer of silt on top</u> <u>subsurface has coarse gravel and</u> <u>silt mixed together</u> _____ _____ _____ _____ _____										
						AMEC Proj. BP2/Jorgensen <u>SD JOR 03 R2</u> SMS metals, PCBs, TOC Date: <u>3/17/15</u> Time: <u>823</u>				



Station SD-JOR03 R2A

QUALITATIVE SAMPLE CHARACTERISTICS										Page ____ of ____	
Coordinate Datum					Date (mm/dd/yy)		Project Location		Sample Identification Number		
WA State Plane, N Zone, NAD 83, Survey Ft					3-17-15		Boeing PL2		SD-JOR 03 R2		
Coordinates							Water Depth				Time
North			East				Depth	Unit	Rep	Gear	
145497			1275846				16.9	f t	13	0.2 Grab	836
Penetration		Initials	Sulfide	VOA	Weather	Fines (%)	Surficial Wood Estimate: Contact Points _____ X 5 = _____ %				
Depth	Unit										
19	cm	G.M.			Cloudy						
Surficial sediment characteristics:											
Biological:		41 (tube worms) %		Debris:		0 %		Oil Sheen:		None Trace (<5%) %	
Moisture		Very Wet		Wet		Moist		Damp		Dry	
Color		Light		Medium		Dark		Olive		Gray Brown Black Other	
Major Constituent		Fine		Medium		Coarse		Gravel		Sand Silt Clay	
Minor Constituent with trace		Fine		Medium		Coarse		Gravel		Sand Silt Clay	
Subsurface sediment characteristics:											
Density / Consistency											
Sand / Gravel -		Very Loose		Loose		Medium Dense		Dense		Very Dense	
Silt / Clay -		Very Soft		Soft		Medium Stiff		Stiff		Very Stiff Hard	
Moisture		Very Wet		Wet		Moist		Damp		Dry	
Color		Light		Medium		Dark		Olive		Gray Brown Black Other trace orange	
Major Constituent		Fine		Medium		Coarse		Gravel		Sand Silt Clay	
Minor Constituent with trace		Fine		Medium		Coarse		Gravel		Sand Silt Clay	
Biological:		0 %		Debris:		0 %		Oil Sheen:		None Trace (<5%) %	
Comments:											
3" layer of silt on top, subsurface has gravel and silt mixed throughout											

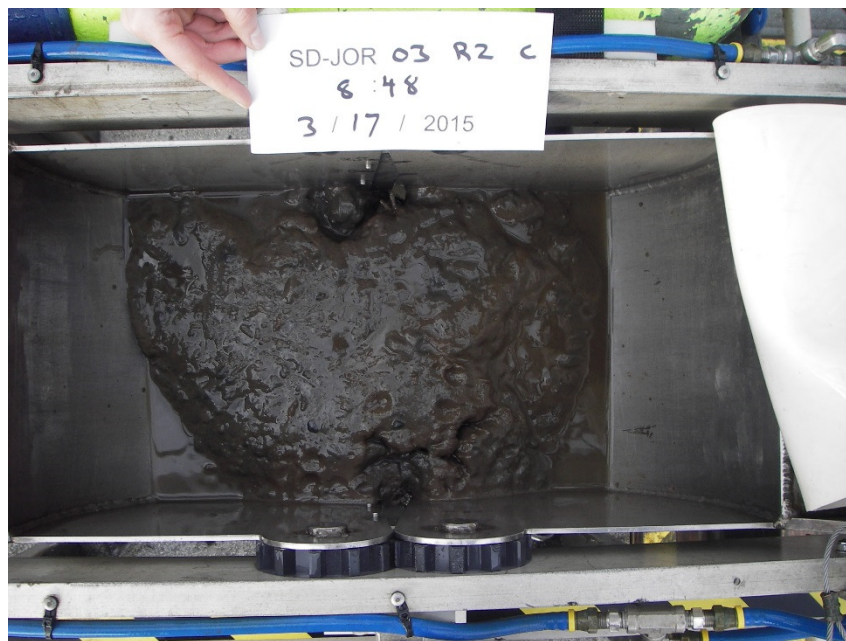


Station SD-JOR03 R2B



## Page of

**AMEC**, 3500 188th St. SW, Suite 601, Lynnwood, WA 98037, (425) 921-4000



Station SD-JOR03 R2C

## Page of

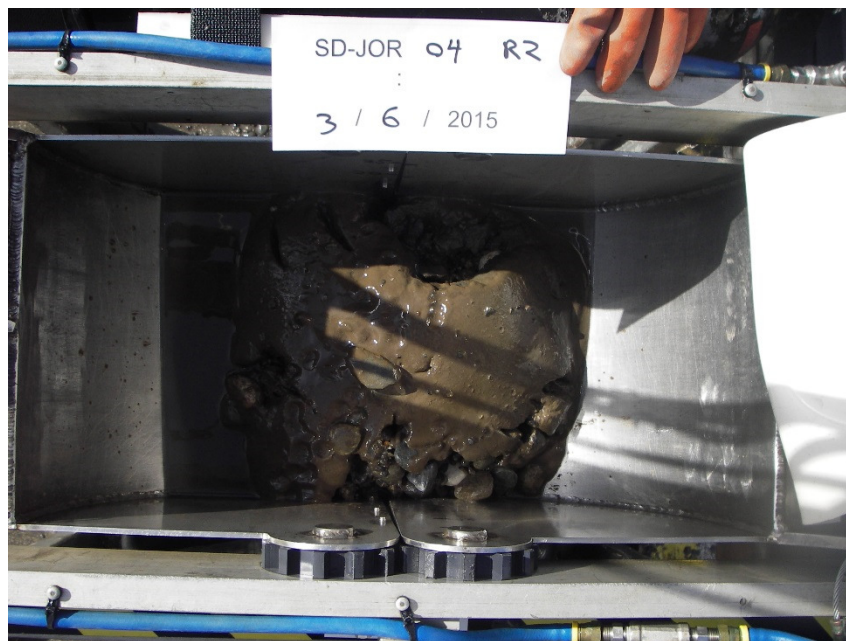
\\Field Forms\QSC



Station SD-JOR04 R1

## Page \_\_\_\_ of \_\_\_\_

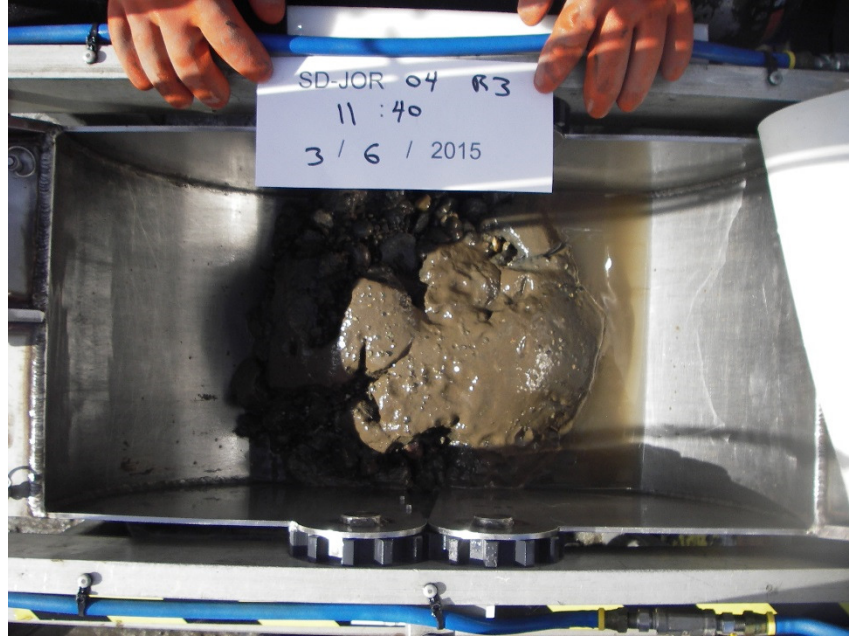
**AMEC**, 3500 188th St. SW, Suite 601, Lynnwood, WA 98037, (425) 921-4000



Station SD-JOR04 R2



QUALITATIVE SAMPLE CHARACTERISTICS										Page ____ of ____	
Coordinate Datum					Date (mm/dd/yy)		Project Location		Sample Identification Number		
WA State Plane, N Zone, NAD 83, Survey F1					3-6-15		Boeing PL2		SD-JOR 04		
Coordinates							Water Depth				Time
North			East				Depth	Unit	Rep	Gear	
195537			1275843				9.6	f t	3	0.2 Grab	1140
Penetration		Unit	Initials	Sulfide	VOA	Weather	Fines (%)	Surficial Wood Estimate: Contact Points _____ X 5 = _____ %			
Depth											
13	cm		Gm			paddy					
Surficial sediment characteristics:											
Biological:		0 %		Debris:		0 %		Oil Sheen:		None Trace (<5%) _____ %	
Moisture		Very Wet		Wet		Moist		Damp		Dry	
Color		Light		Medium		Dark		Olive		Gray Brown Black Other _____	
Major Constituent		Fine		Medium		Coarse		Gravel		Sand Silt Clay _____	
Minor Constituent with trace		Fine		Medium		Coarse		Gravel		Sand Silt Clay _____	
Subsurface sediment characteristics:											
Density / Consistency											
Sand / Gravel -		Very Loose		Loose		Medium Dense		Dense		Very Dense	
Silt / Clay -		Very Soft		Soft		Medium Stiff		Stiff		Very Stiff Hard	
Moisture		Very Wet		Wet		Moist		Damp		Dry	
Color		Light		Medium		Dark		Olive		Gray Brown Black Other _____	
Major Constituent		Fine		Medium		Coarse		Gravel		Sand Silt Clay _____	
Minor Constituent with trace		Fine		Medium		Coarse		Gravel		Sand Silt Clay _____	
Biological:		0 %		Debris:		0 %		Oil Sheen:		None Trace (<5%) _____ %	
Comments: ~3/4" silt on top of gravel/sand mixture _____ _____ _____ _____ _____ _____ _____											



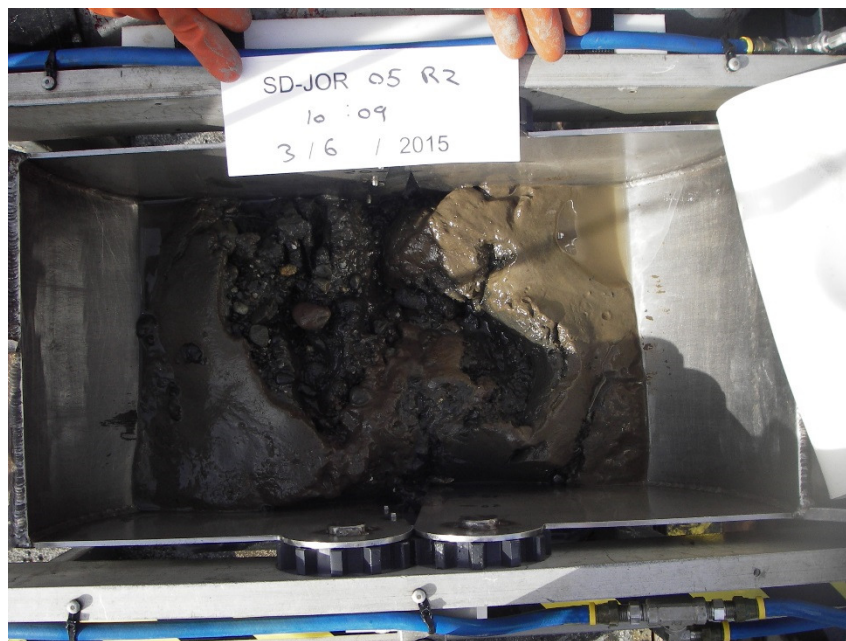
Station SD-JOR04 R3

QUALITATIVE SAMPLE CHARACTERISTICS										Page ____ of ____
Coordinate Datum				Date (mm/dd/yy)		Project Location		Sample Identification Number		
WA State Plane, N Zone, NAD 83, Survey Fl				3-6-15		Boeing PL2		SD-JOR 95		
Coordinates						Water Depth			Time	
North			East			Depth	Unit	Rep	Gear	
195400			1275863			16.3	f t	1	0.2 Grab	
Penetration			Sulfide	VOA	Weather	Surficial Wood Estimate:				
Depth	Unit	Initials				Contact Points				
22	c m	65m			g cloudy	_____ X 5 = _____ %				
Surficial sediment characteristics:										
Biological:		21		%		Debris:		0		
Oil Sheen:		None		Trace (<5%)		%				
Moisture										
Very Wet		Wet		Moist		Damp		Dry		
Color										
Light		Medium		Dark		(Circle major & underline modifying)		Olive Gray Brown Black Other		
Major Constituent										
Fine		Medium		Coarse		(Circle major & underline modifying)		Gravel Sand Silt Clay		
Minor Constituent with trace										
Fine		Medium		Coarse				Gravel Sand Silt Clay		
Subsurface sediment characteristics:										
Density / Consistency										
Sand / Gravel -		Very Loose		Loose		Medium Dense		Dense Very Dense		
Silt / Clay -		Very Soft		Soft		Medium Stiff		Stiff Very Stiff Hard		
Moisture										
Very Wet		Wet		Moist		Damp		Dry		
Color										
Light		Medium		Dark		(Circle major & underline modifying)		Olive Gray Brown Black Other		
Major Constituent										
Fine		Medium		Coarse		(Circle major & underline modifying)		Gravel Sand Silt Clay		
Minor Constituent with trace										
Fine		Medium		Coarse				Gravel Sand Silt Clay		
Biological:		21		%		Debris:		0		
Oil Sheen:		None		Trace (<5%)		%				
Comments:										
tube worms present in silt										
AMEC Proj. BP2/Jorgensen										
SD-JOR05										
QSC Form										
Date: 3/6/15 Time: 954										



Station SD-JOR05 R1

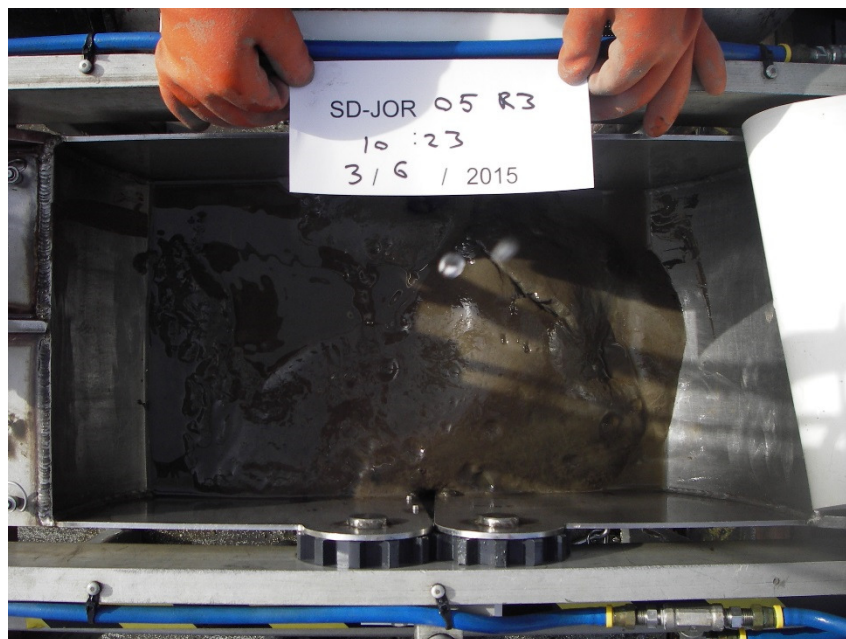
QUALITATIVE SAMPLE CHARACTERISTICS										Page ____ of ____	
Coordinate Datum					Date (mm/dd/yy)		Project Location		Sample Identification Number		
WA State Plane, N Zone, NAD 83, Survey F1					3-6-15		Boeing PL2		SD-JOR 05		
Coordinates						Water Depth				Time	
North			East			Depth	Unit	Rep	Gear		
195 399			127 5861			16.6	f t	2	0.2 Grab		
Penetration		Unit	Initials	Sulfide	VOA	Weather	Fines (%)	Surficial Wood Estimate: Contact Points _____ X 5 = _____ %			
Depth											
14	c m		CSN			p cloudy					
Surficial sediment characteristics:											
Biological:		0 %		Debris:		0 %		Oil Sheen:		None Trace (<5%) _____ %	
Moisture		Very Wet		Wet		Moist		Damp		Dry	
Color		Light		Medium		Dark		Olive		Gray Brown Black Other _____	
Major Constituent		Fine		Medium		Coarse		Gravel		Sand Silt Clay _____	
Minor Constituent with trace		Fine		Medium		Coarse		Gravel		Sand Silt Clay _____	
Subsurface sediment characteristics:											
Density / Consistency											
Sand / Gravel -		Very Loose		Loose		Medium Dense		Dense		Very Dense	
Silt / Clay -		Very Soft		Soft		Medium Stiff		Stiff		Very Stiff Hard	
Moisture		Very Wet		Wet		Moist		Damp		Dry	
Color		Light		Medium		Dark		Olive		Gray Brown Black Other _____	
Major Constituent		Fine		Medium		Coarse		Gravel		Sand Silt Clay _____	
Minor Constituent with trace		Fine		Medium		Coarse		Gravel		Sand Silt Clay _____	
Biological:		0 %		Debris:		0 %		Oil Sheen:		None Trace (<5%) _____ %	
Comments:											
center of sample grab lost because rocks held the jaw open. Sampled at side of grab.											



Station SD-JOR05 R2



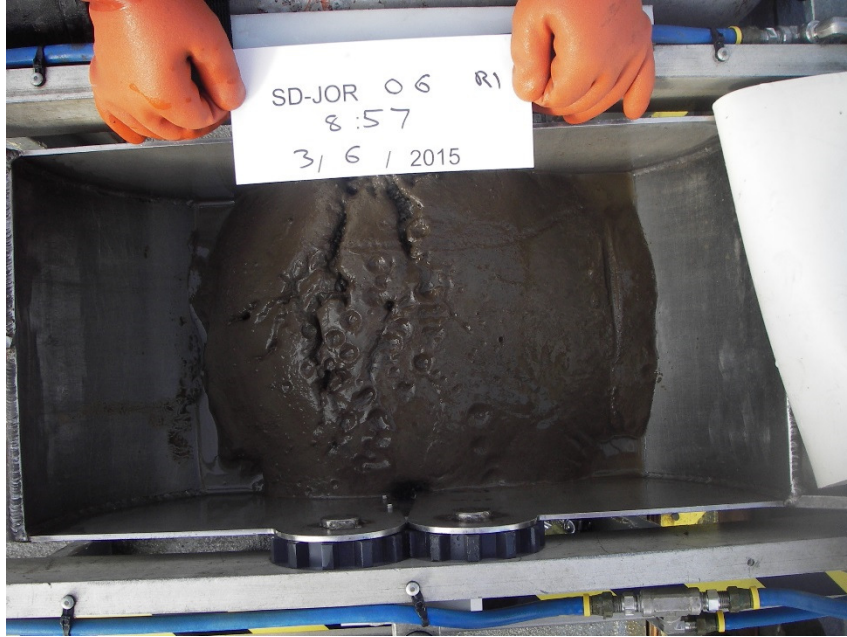
QUALITATIVE SAMPLE CHARACTERISTICS										Page ____ of ____	
Coordinate Datum					Date (mm/dd/yy)		Project Location		Sample Identification Number		
WA State Plane, N Zone, NAD 83, Survey Ft					3-6-15		Boeing PL2		SD-JOR 95		
Coordinates							Water Depth				Time
North			East				Depth	Unit	Rep	Gear	
195 297			127 5859				16.3	f t	3	0.2 Grab	1023
Penetration		Unit	Initials	Sulfide	VOA	Weather	Fines (%)	<b>Surficial Wood Estimate:</b> <b>Contact Points</b> _____ X 5 = _____ %			
Depth											
15	c m		GJR			p cloudy					
<b>Surficial sediment characteristics:</b> Biological: _____ %    Debris: _____ %    Oil Sheen: <u>None</u> Trace (<5%) _____ % Moisture: <u>Very Wet</u> Wet    Moist    Damp    Dry Color: Light <u>Medium</u> Dark    Olive    Gray <u>Brown</u> Black    Other _____ (Circle major & underline modifying) Major Constituent: <u>Fine</u> Medium    Coarse    Gravel    Sand <u>Silt</u> Clay (Circle major & underline modifying) Minor Constituent with trace: Fine    Medium    Coarse    Gravel    Sand    Silt    Clay											
<b>Subsurface sediment characteristics:</b> Density / Consistency Sand / Gravel -    Very Loose <u>Loose</u> Medium Dense    Dense    Very Dense Silt / Clay -    Very Soft <u>Soft</u> <u>Medium Stiff</u> Stiff    Very Stiff    Hard Moisture: <u>Very Wet</u> <u>Wet</u> Moist    Damp    Dry Color: Light <u>Medium</u> Dark    Olive    Gray <u>Brown</u> Black    Other _____ (Circle major & underline modifying) Major Constituent: <u>Fine</u> Medium    Coarse    Gravel    Sand <u>Silt</u> Clay (Circle major & underline modifying) Minor Constituent with trace: Fine    Medium <u>Coarse</u> Gravel <u>Sand</u> Silt    Clay Biological: _____ %    Debris: _____ %    Oil Sheen: None    Trace (<5%) _____ %											
<b>Comments:</b> <u>logged as Rep 2 in GPS</u> _____ _____ _____ _____ _____ _____											



Station SD-JOR05 R3

## Page of

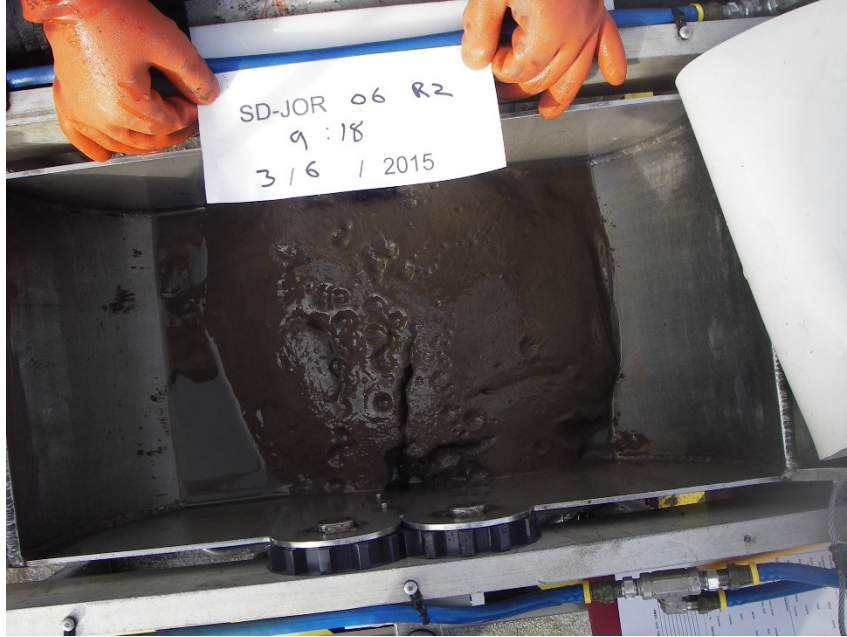
Amin\Field Forms\QSC



Station SD-JOR06 R1

## Page of

**AMEC**, 3500 188th St. SW, Suite 601, Lynnwood, WA 98037, (425) 921-4000



Station SD-JOR06 R2



QUALITATIVE SAMPLE CHARACTERISTICS										Page ____ of ____
Coordinate Datum				Date (mm/dd/yy)		Project Location		Sample Identification Number		
WA State Plane, N Zone, NAD 83, Survey Ft				3-6-15		Boeing PL2		SD-JOR 96		
Coordinates						Water Depth				
North			East			Depth	Unit	Rep	Gear	
195395			1275892			11.8	f t	3	0.2 Grab	
Penetration		Initials	Sulfide	VOA	Weather	Fines (%)	<b>Surficial Wood Estimate:</b> <b>Contact Points</b> _____ X 5 = _____ %			
Depth	Unit									
15	c m	cm			cloudy					
<b>Surficial sediment characteristics:</b>										
Biological:		0 %		Debris:		0 %		Oil Sheen: None Trace (<5%) _____ %		
<b>Moisture</b>		Very Wet		Wet		Moist		Damp Dry		
<b>Color</b>		Light		Medium		Dark		(Circle major & underline modifying) Olive Gray <u>Brown</u> Black Other _____		
<b>Major Constituent</b>		Fine		Medium		<u>Coarse</u>		(Circle major & underline modifying) Gravel <u>Sand</u> Silt Clay _____		
<b>Minor Constituent with trace</b>		Fine		<u>Medium</u>		Coarse		Gravel Sand <u>Silt</u> Clay _____		
<b>Subsurface sediment characteristics:</b>										
<b>Density / Consistency</b>										
<u>Sand / Gravel -</u>		Very Loose		<u>Loose</u>		Medium Dense		Dense Very Dense		
<u>Silt / Clay -</u>		Very Soft		<u>Soft</u>		Medium Stiff		Stiff Very Stiff Hard		
<b>Moisture</b>		Very Wet		Wet		Moist		Damp Dry		
<b>Color</b>		Light		Medium		Dark		(Circle major & underline modifying) Olive Gray <u>Brown</u> Black Other _____		
<b>Major Constituent</b>		Fine		Medium		<u>Coarse</u>		(Circle major & underline modifying) Gravel <u>Sand</u> Silt Clay _____		
<b>Minor Constituent with trace</b>		Fine		<u>Medium</u>		Coarse		Gravel Sand Silt Clay _____		
Biological:		0 %		Debris:		0 %		Oil Sheen: None Trace (<5%) _____ %		
<b>Comments:</b>										
attempt one - rock in jaws - reject - no GPS pt recorded less silt than firsts 2 grabs										



Station SD-JOR06 R3

## **CHAIN-OF-CUSTODY FORMS**

---

**AMEC**

3500 188th St. SW, Suite 601  
Lynnwood, WA 98037  
(425) 921-4000

# CHAIN OF CUSTODY

AMEC Proj. BP2 Perimeter  
COC Number 080

## Analysis Containers

Recorded by: SSV

Checked by: \_\_\_\_\_

SMS Metals (As, Cd,  
Cr, Cu, Pb, Hg, Ag, Zn)  
TOC, and  
PCBs (by Aroclor)

Archive

AMEC Proj. BP2/Jorgensen

SD-JOR05

COC Form

Initials: SSV Date: 11/24/2014

Date:

Time:

842

Number of containers

AMEC Proj. BP2/Jorgensen

SD-JOR06

COC Form

Initials: SSV Date: 11/24/2014

Date:

Time:

1002

Number of containers

AMEC Proj. BP2/Jorgensen

SD-JOR04

COC Form

Initials: SSV Date: 11/24/2014

Date:

Time:

1041

Number of containers

AMEC Proj. BP2/Jorgensen

SD-JOR01

COC Form

Initials: SSV Date: 11/24/2014

Date:

Time:

1121

Number of containers

AMEC Proj. BP2/Jorgensen

SD-JOR02

COC Form

Initials: SSV Date: 11/24/2014

Date:

Time:

1242

Number of containers

AMEC Proj. BP2/Jorgensen

SD-JOR03

COC Form

Initials: SSV Date: 11/24/2014

Date:

Time:

1407

Number of containers

or Write ID Number Here

Time:

## Laboratory Sample Receipt

ARI Project Manager—Kelly Bottem  
AMEC Project Manager—Cliff Whitmus (cliff.whitmus@amec.com ph 425-921-4023)  
AMEC Laboratory Coordinator—Crystal Neirby  
(crystal.neirby@amec.com ph. 206-838-8469)

Sediment samples are unhomogenized. Samples must be thoroughly homogenized before analysis.

## Relinquished By

Name: Tyler Henry  
Date: 11/24/2014  
Time: 15:52

## Received By

Name: Tyler Henry  
Date: 11/24/14  
Time: 15:52

# CHAIN OF CUSTODY

Place Sample ID Label Here  
or Write ID Number Here

## Analysis Containers

Recorded by: GSN

Checked by: \_\_\_\_\_

SMS Metals (As, Cd,  
Cr, Cu, Pb, Hg, Ag, Zn)  
TOC, and  
PCBs (by Aroclor)

Archive

AMEC Proj. BP2/Jorgensen

SD-JOR06

COC Form

Date: 3/6 /15 Time: 857

Date:

Time:

Number of containers

AMEC Proj. BP2/Jorgensen

SD-JOR05

COC Form

Date: 3/6 /15 Time: 954

Date:

Time:

Number of containers

AMEC Proj. BP2/Jorgensen

SD-JOR04

COC Form

Date: 3/6 /15 Time: 1113

Date:

Time:

Number of containers

AMEC Proj. BP2/Jorgensen

SD-JOR03

COC Form

Date: 3/6 /15 Time: 1315

Date:

Time:

Number of containers

AMEC Proj. BP2/Jorgensen

SD-JOR02

COC Form

Date: 3/6 /15 Time: 1407

Date:

Time:

Number of containers

AMEC Proj. BP2/Jorgensen

SD-JOR01

COC Form

Date: 3/6 /15 Time: 1443

Date:

Time:

Number of containers

Date:

Time:

Number of containers

## Laboratory Sample Receipt

ARI Project Manager—Kelly Bottem  
AMEC Project Manager—Cliff Whitmus (cliff.whitmus@amec.com ph 425-921-4023)  
AMEC Laboratory Coordinator—Crystal Neirby  
(crystal.neirby@amec.com ph 206-838-8469)

Sediment samples are unhomogenized. Samples must be thoroughly homogenized before analysis.

## Relinquished By

## Received By

Name: Gary Maxwell

Date: 3-6-15

Time: 1658

Name: Chris Atwell

Date: 3-6-15

Time: 1658

**AMEC**

3500 188th St. SW, Suite 601  
Lynnwood, WA 98037  
(425) 921-4000

# CHAIN OF CUSTODY

Place Sample ID Label Here  
or Write ID Number Here

Analysis Containers			
SMS Metals (As, Cd, Cr, Cu, Pb, Hg, Ag, Zn) TOC, and PCBs (by Aroclor)	Archive		

Recorded by: SM

Checked by: \_\_\_\_\_

AMEC Proj. BP2/Jorgensen  
SD JOR 03 R2  
COC Form  
Date: 3/17/15 Time: 823

Place Sample ID Label Here or Write ID Number Here	Date:	Analysis Containers	Archive	Number of containers
	Time:			
<div style="border: 1px solid black; height: 20px; width: 100%;"></div>				1
<div style="border: 1px solid black; height: 20px; width: 100%;"></div>				
<div style="border: 1px solid black; height: 20px; width: 100%;"></div>				
<div style="border: 1px solid black; height: 20px; width: 100%;"></div>				
<div style="border: 1px solid black; height: 20px; width: 100%;"></div>				
<div style="border: 1px solid black; height: 20px; width: 100%;"></div>				
<div style="border: 1px solid black; height: 20px; width: 100%;"></div>				

**Laboratory Sample Receipt**

ARI Project Manager—Kelly Bottem  
AMEC Project Manager—Cliff Whitmus (cliff.whitmus@amec.com ph 425-921-4023)  
AMEC Laboratory Coordinator—Crystal Neirby (crystal.neirby@amec.com ph. 206-838-8469)

Sediment samples are unhomogenized. Samples must be thoroughly homogenized before analysis.

Relinquished By		Received By	
Name:	<u>Kyle Kalbines</u>	Name:	<u>[Signature]</u>
Date:	<u>3/17/15</u>	Date:	<u>3/17/15</u>
Time:	<u>1523</u>	Time:	<u>1523</u>